

NGA (SEM. 2) REVIEW WORKSHEET**Simplify each sum or difference.**

1. $6r^3 + 7r^3$

2. $23u^2v - 19u^2v$

3. $(5g - 2g) + (2g^2 + 6g)$

Simplify each product.

4. $3x(x + 6)$

5. $-z^2(z - 9)$

6. $2x(4x^2 - 7x + 6)$

Simplify each product using the stated method.

7. $(x - 2)(3x - 4)$

8. $(3x + 2)(x + 7)$

9. $(4x - 1)(2x + 5)$

Simplify each product.

10. $(x + 6)^2$

11. $(2s + 7)^2$

12. $(3x - 8)^2$

13. The perimeter of a pentagon is $20t + 7$. Four sides have the following lengths: $6t$, $2t$, $4t - 5$, and $5t + 1$. What is the length of the fifth side?

14. The area of a rectangular field is given by the trinomial $t^2 - 4t - 45$. The length of the rectangle is $t + 5$. What is the expression for the width of the field?
15. The area of a rectangle is given by the trinomial $10x^2 - 31x - 14$. The length of the rectangle is $5x + 2$. What is the expression for the width of the rectangle?
16. The area of a square room is $16x^2 + 72x + 81$. What is the length of one side of the room?
17. A rectangular prism has a volume of $4x^3 + 30x^2 + 36x$. What linear expressions can represent possible dimensions of the prism?

Find an expression for the area of each shaded region.

